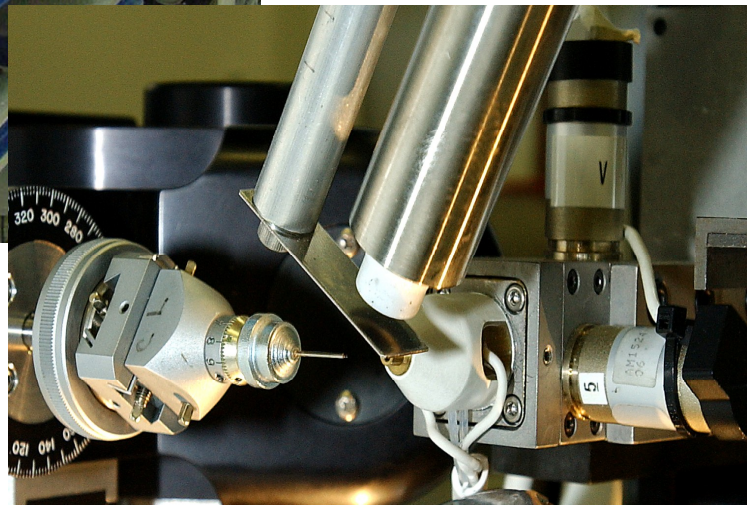
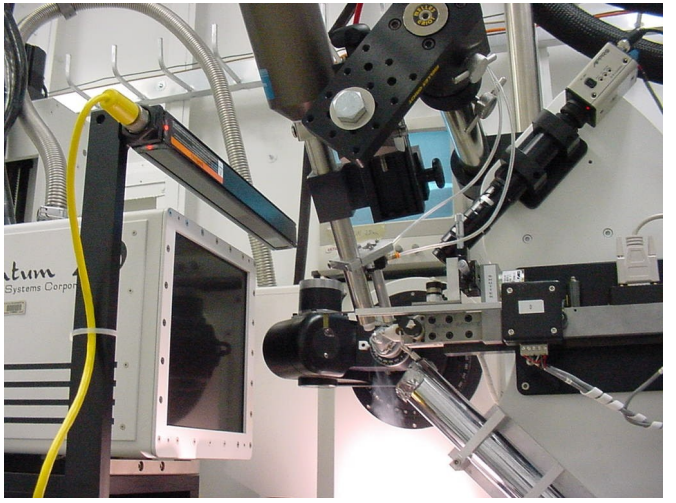
X6A end-station in 2002 (first sample)

1. Detector : CCD *ADSC* Q210
2. Diffractometer : (worm drive) Θ spindle axis *Crystal Logic* with kappa phi orienter.
3. 45 degrees microscope with BNC CCD and monitor.
4. Goniometer head manually adjusted

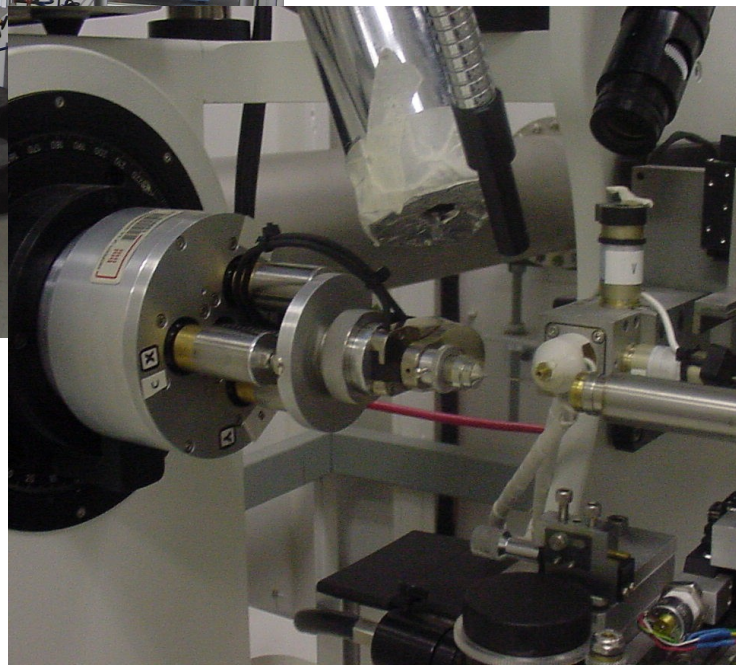




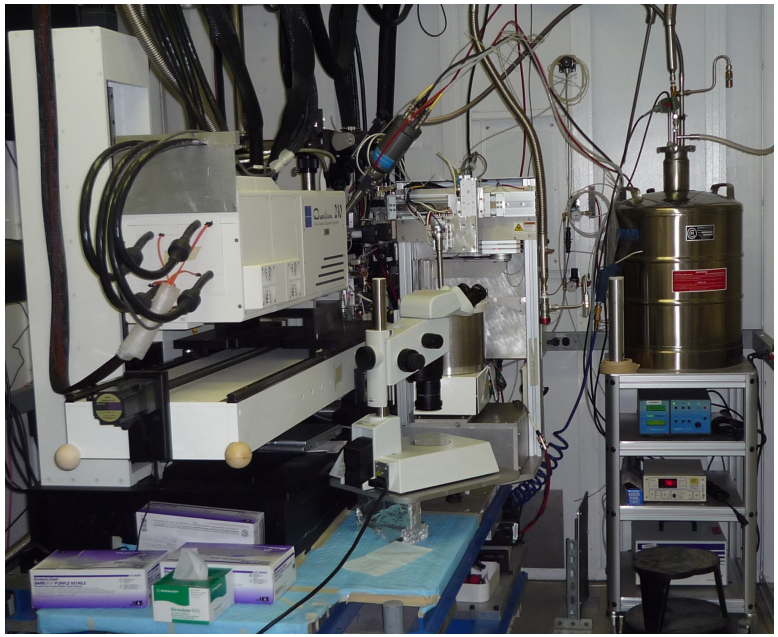
X6A end-station in 2005

1. ALS auto-mounter with 64 samples dewar
2. motorized XYZ (mini kappa)
3. "in-line" visualization with motorized zoom and focus + video server

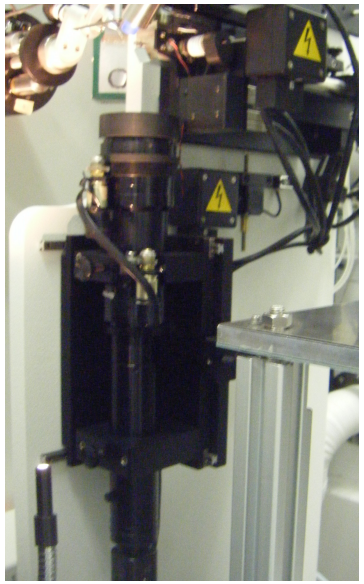
Using Actuated prism with pin hole.

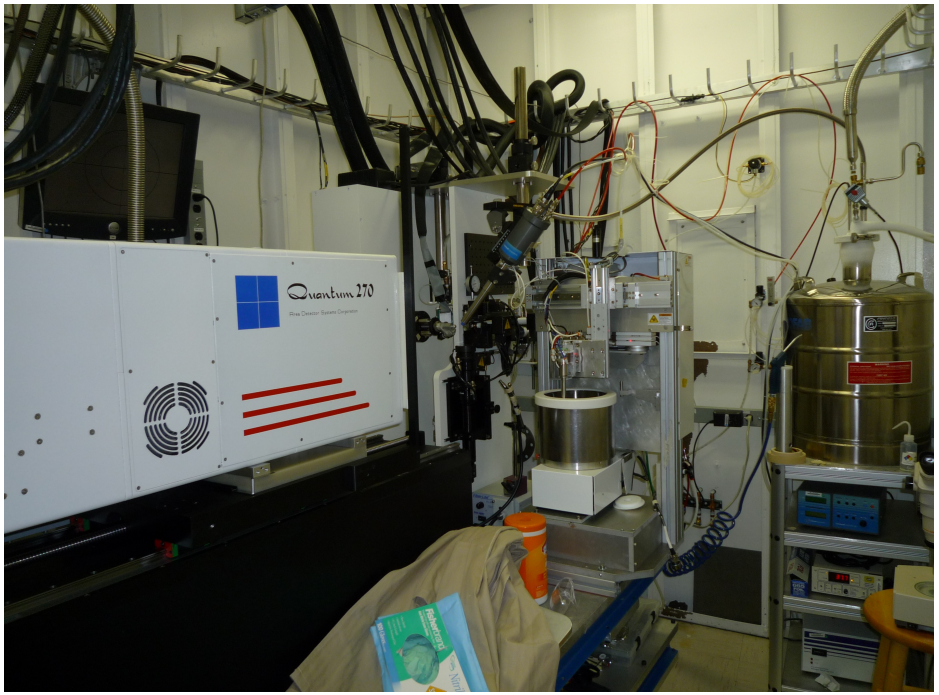


X6A end-station in 2009



1. Detector : CCD ADSC Q270
2. single axis air bearing omega spindle
3. "in-line" visualization with motorized zoom and focus with fixed mirror (10 deg)
4. Large aperture collimating slits





Detector	Q210 (Thomson)	Q270 (Kodak)	
	210 mm	270 mm	area * 1.65
CCD QE(550 nm)	<0.25	> 0.7	efficiency * 3
Full well cap.	270 K	550 K	dynamic range * 2
Readout (full)	1 s	1 s	
PSF FWHM	90 um	90 um	

Rotation axis Worm drive Air bearing

6 deg/sec 180 deg/sec

>>>>>> centering > 12times faster (increased screening speed by 2)

Collimating slits 1 mm 2 mm

Easy location of full beam, facilitate table / mirror alignment

(wish scannable slits with real time Io measurement)

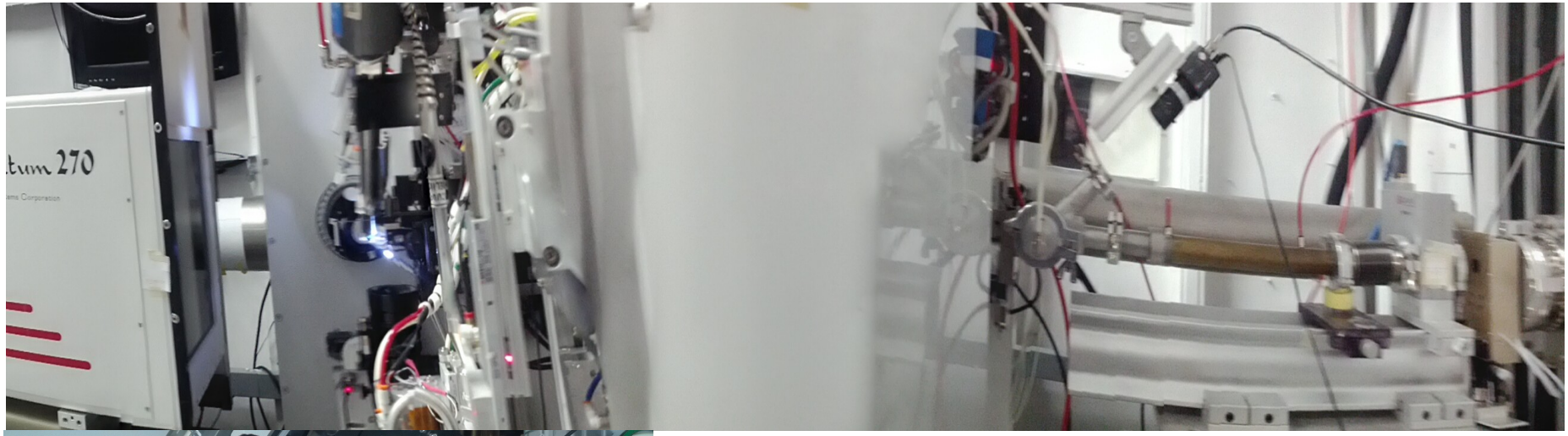
Helium flow compatibility

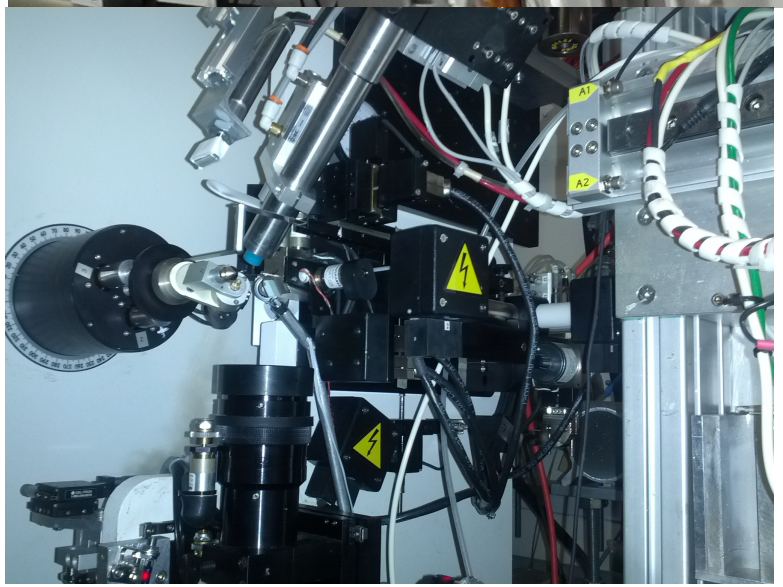
Slits/Ionization Chambers bar (60 + 40 cm) : increase flux at sample at LE (*4)

Near in-line sample visualization

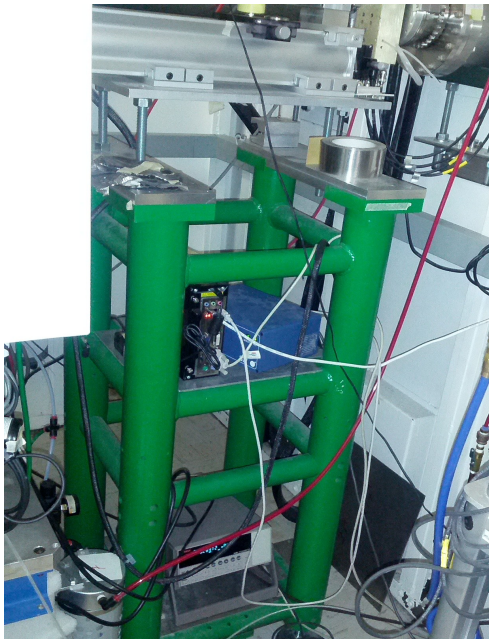
Robust, no motions, but motors. High magnification (FOV~ 240 wide)

X6A end-station in 2013 (10 000 samples later)





Robust auto-mounter
Robust centering
Robust lid
Remote friendly
Well equipped (vortex, AVT, annealing, …)



Possible improvements (that would be used at NSLS II)
K-B mirror to increase flux density by > 10
High capacity auto-mounter dewar holding 7-10 pucks
UHR GigE camera, 14 MP, motionless zoom 1 to 5

X6A : current and past staff members

NSLS : staff (Sci. Tech. Mech. IT.)